

CLAIMS

1. An apparatus comprising:

a first circuit configured to generate a first select signal, a second select signal and a first data stream in response to an input data stream and an exception signal; and

5 a second circuit configured to generate an output data stream in response to said first data stream, said first select signal and said second select signal, wherein said second circuit is configured to replace one or more characters of said first data stream.

2. The apparatus according to claim 1, wherein said exception signal comprises a transmitter exception signal.

3. The apparatus according to claim 1, wherein said second circuit is configured to replace said one or more characters with a predetermined character to indicate the presence and duration of an exception condition in a transmission station.

4. The apparatus according to claim 3, wherein said predetermined character indicates an exception condition selected

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from the group consisting of a hardware fault, a synchronization failure, and a software generated interrupt of a transmission function.

5 5. The apparatus according to claim 3, wherein said second circuit is further configured to present said predetermined character as either (i) a positive disparity character or (ii) a negative disparity character, in response to said first and second select signals.

5 6. The apparatus according to claim 5, wherein said second circuit selects and/or transmits (i) said positive disparity character when a current running disparity is negative and (ii) said negative disparity character when the current running disparity is positive.

7. The apparatus according to claim 1, wherein said first circuit comprises a detection-encoder circuit and said second circuit comprises an error injection circuit.

8. The apparatus according to claim 1, wherein said second circuit comprises a first multiplexer configured to multiplex said first data stream and an error injection path in response to said first select signal to present said output data stream.

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9. The apparatus according to claim 8, wherein said second circuit is further configured to generate said output data stream in response to a first and a second disparity signal.

10. The apparatus according to claim 9, wherein said second circuit further comprises a second multiplexer configured to multiplex said first and second disparity signals in response to said second select signal and present said error injection path.

11. The apparatus according to claim 10, wherein said output of said second multiplexer comprises an invalid data stream and said first data stream comprises a valid data stream.

12. The apparatus according to claim 4, wherein said first circuit comprises (i) a detection circuit configured to

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present said first select signal in response to said exception condition, (ii) a tracking circuit configured to present said
5 second select signal in response to said first select signal and a code signal and (iii) an encoder circuit configured to present said first data stream and said code signal in response to said second select signal and said input data stream.

13. The apparatus according to claim 12, wherein said detection circuit is further configured to indicate a duration of said exception condition.

14. An apparatus comprising:

means for generating a first select signal, a second select signal and a first data stream in response to an input data stream and an exception signal;

5 means for generating an output data stream in response to said first data stream, said first select signal and said second select signal; and

means for replacing one or more characters of said first data stream.

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15. A method for propagating transmitter exceptions comprising the steps of:

(A) detecting a transmitter exception; and

(B) replacing one or more characters of a data stream

5 with a predetermined character.

16. The method according to claim 15, wherein said predetermined character is orthogonal to an encoded data and special character set.

17. The method according to claim 15, further comprising the step of:

(C) presenting said predetermined character with either a positive or a negative disparity.

18. The method according to claim 17, wherein step (C) further comprises selecting and transmitting (i) said positive disparity form when a current running disparity is negative or (ii) said negative disparity form when said current running disparity is
5 positive.

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19. The method according to claim 15, wherein step (A) further comprises detecting a hardware fault, a synchronization failure, or a software generated interrupt of a transmitter function.

20. The method according to claim 15, wherein step (B) is repeated for a duration of said transmitter exception.